

**A CORROSION RETARDING POLISHING SLURRY FOR
THE CHEMICAL MECHANICAL POLISHING OF COPPER SURFACES**

ABSTRACT OF THE DISCLOSURE

The present invention provides a slurry for chemical mechanical polishing (CMP) a metal surface of a semiconductor substrate with a polyurethane-free thermoplastic foam polishing body. The slurry includes an abrasive particle stabilizer and an acid buffer that maintains the slurry at a pH between about 2.5 and about 4.0 during polishing of a metal surface on a semiconductor substrate. In yet another embodiment, the present invention provides a CMP polishing system. The polishing system comprises a slurry that maintains a pH between about 1 and about 6 during polishing of a metal surface on a semiconductor substrate. The system further includes a polishing pad that includes a polishing body having a polyurethane-free thermoplastic foam substrate that cooperates with the slurry to remove portions of the metal surface during said polishing.